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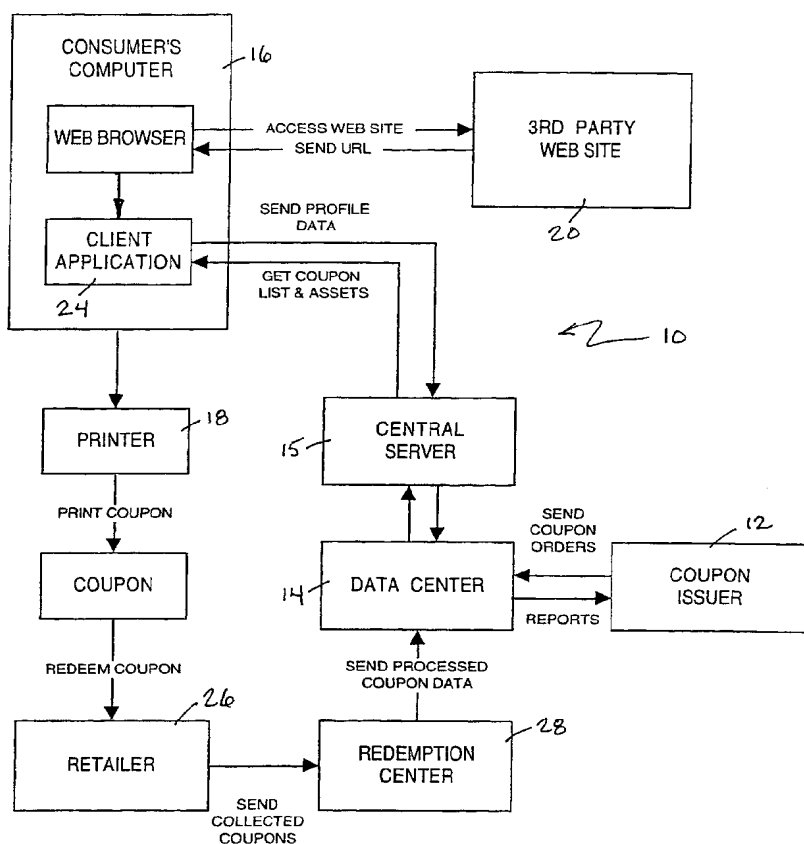
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(54) Title: INTERACTIVE COUPON DISTRIBUTION SYSTEM



(57) Abstract: A distributed client/server Internet application allows participating third-party websites (20) to host targeted advertising content. A client application program resident (24) on a consumer's computer (16) communicates with a central server (15) to receive advertising content, particularly coupon offers (40), with targeting parameters based on a profile of the individual consumer and the content of the third-party website (20) being visited. The consumer may select from among the coupon offers (40) presented within a display window and print the corresponding coupons (40). Each coupon (40) is imprinted with a unique identification code (46). The coupons (40) are then redeemed at a retailer (26) in the same manner as conventional coupons.



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## **INTERACTIVE COUPON DISTRIBUTION SYSTEM**

### **BACKGROUND OF THE INVENTION**

#### **1. FIELD OF THE INVENTION**

This invention relates to the distribution of merchandise discount coupons and the like via the Internet. More particularly, the invention relates to a system and method whereby coupons are distributed electronically and can be readily targeted to consumers who have known coupon collection profiles.

#### **2. PRIOR ART**

Discount coupons and the like (e.g., "cents off" coupons, rebate coupons, special offer coupons, etc., which are collectively referred to with the general term "coupons") have become an integral part of marketing strategies for many products and services, particularly retail consumer goods, sundries, foodstuffs, hardware, clothing, and the like that are typically sold at local grocery, drug, department and discount stores. Product manufacturers widely utilize coupons and other incentives to promote new and existing products, boost sales, and obtain demographic information concerning consumer buying patterns.

There are numerous conventional channels for the distribution of coupons. At present, the most widely used distribution channel is the free-standing insert (FSI) placed in most Sunday newspapers. Although this means of distribution offers widespread exposure, the redemption rate is quite low. Most of the coupons printed and distributed are effectively wasted. Other mass-media distribution channels for coupons include direct mail, manufacturers' advertisements in newspapers and magazines, co-op advertisements in newspapers and in-package or on-package coupons for the same or related goods. Like the FSI, most of these other conventional channels of coupon distribution have very low response rates.

Another significant disadvantage of prior art coupon distribution methods is fraud. Although some coupon misredemptions may be accidental, there is a fairly high incidence of fraud on the part of both consumers and retailers. The advent of double or even triple redemption coupon promotions provided by some retail stores (e.g., grocery store chains) as well as generous cash rebate coupon promotions (i.e., gift certificates and the like), has created greater incentive for fraudulent coupon

redemptions. Modern color photocopiers are capable of creating coupons that are indistinguishable from the originals. Unscrupulous consumers may use such photocopied coupons to purchase large numbers of items at reduced prices or fraudulently obtain rebates for products which were never purchased. Moreover, some unscrupulous retailers may conspire with coupon brokers to redeem large numbers of illicitly obtained or generated coupons to defraud manufacturers.

In addition, prior art coupon distribution methods have yielded little, if any, useful data to product manufacturers regarding the demographic profile of the consumers who redeem the coupons. Consumer demographic data is invaluable to a product manufacturer in determining which products to target to particular consumer groups (e.g., through particular advertising channels). Moreover, such demographic data may be used to more efficiently distribute future coupons. Furthermore, information as to the buying habits and demographics of particular consumers or groups of consumers has a market value and such information may be sold or traded for a profit.

Various techniques have been proposed to provide more convenient and efficient techniques for distributing coupons, to increase redemption rates, to eliminate or reduce fraud and to better collect and track consumer demographic data.

U.S. Pat. No. 5,128,752, issued to Von Kohorn discloses an in-home system and method for generating coupons and tokens. A coupon-generating unit is placed in a consumer's home. Coupons are generated in accordance with selected product information and authentication data transmitted to and displayed on a television receiver in the consumer's home. The coupons or other tokens generated can be presented to stores or redemption facilities for prizes and discounts on selected products. The generating unit may include a memory for storing information about the coupons generated for later review by marketing and manufacturing companies.

U.S. Pat. No. 5,305,197 issued to Axler, et al. discloses a coupon dispensing system that may be placed in a retail establishment. The system includes a central computer, a display of various consumer items, a keyboard interfaced with the central computer to allow a consumer to select one of the displayed items, a printer enabling a coupon to be printed in response to the consumer's selection and a memory to store the types and quantities of coupons dispensed. The coupon system operator periodically "visits" the dispenser, either physically or electronically, to update the

coupons that are offered and to collect the stored information concerning the types and quantities of coupons dispensed to consumers.

Less elaborate than the system of Axler are various coupon dispensing devices that may be placed within a store in close proximity to the products for which the coupons are offered. While the redemption rates for coupons distributed by such in-store devices is much higher than for coupons distributed through more conventional prior art channels, fraud remains a problem. Furthermore, most of the in-store systems, including that of Axler, do not collect any demographic data.

U.S. Pat. No. 5,353,218 to De Lapa, et al. discloses a computer-implemented system and method for distributing and redeeming focused coupons. The system gathers information regarding the characteristics of particular customers and utilizes those characteristics in order to focus the coupons offered to the customers. Based on known characteristics of a customer, coupons are selected and distributed to the customer by conventional means, such as direct mail. Both a coupon identification and a customer identification are encoded on the coupon in machine readable form. When the customer redeems coupons, the characteristics for that customer may be updated to reflect the particular coupons redeemed. Other consumption-related information pertaining to the customer may be combined with the history of coupon redemption in order to select coupons for subsequent distribution to the customer. This additional information may be obtained by a telephone interview or by completion of a survey.

U.S. Patent No. 4,674,041 issued to Lemon, et al. discloses a system for monitoring and controlling the distribution of coupons from a plurality of in-store terminals. Coupons are displayed for customer selection on a touch-screen video menu. Customers are required to swipe a credit card at the terminal in order to dispense the selected coupons. The coupon issuer can prescribe a particular number of coupons to be redeemed both collectively and at each retail store. In order to combat fraud, the coupons are encoded with store identification numbers, expiration dates, uniform product codes and other information at the point of distribution. Each in-store coupon dispensing terminal communicates with a central host computer. The terminals are monitored and controlled by the host computer to obtain data such as the number of coupons issued and the identification of customers using the terminals.

U.S. Patent No. Re. 34,915 issued to Nichtberger, et al. discloses a system for electronically distributing, redeeming and clearing merchandise coupons. An in-store terminal electronically displays coupons that are valid for use in the store. A customer can select desired coupons from the display and the selection is recorded. The customer making the selection is identified with a special card adapted for use with the system. When the customer proceeds to the store check-out station, the customer again presents the card and, if the items for which coupons were selected are purchased, the customer is credited with the appropriate discounts. The in-store systems are connected to a central computer, which debits the issuers of the redeemed coupons and credits the store accordingly.

U. S. Patent No. 5,710,886 issued to Christensen, et al. discloses a method and apparatus for distributing and generating coupons. A database is generated comprising at least a list of consumer names and addresses. A package of data for a selected group of consumers is generated for the consumers on the list. The package of data includes coupon data. The package of data is transmitted to the selected group of consumers from the list. Demographic and identification data received from a consumer from the selected group of consumers is then entered into the database. A validation code is then transmitted to the consumer's computer so as to allow the consumer's computer to generate a selected coupon from the coupon data in the package of data. The coupon, including a consumer identification number, is processed once the coupon has been redeemed, to retrieve the customer identification number and update the database to indicate whether a consumer has redeemed the coupon.

The package of data may be transmitted to a consumer's computer by diskette, on-line or dial-up. The number of times a consumer has redeemed a given coupon may be counted to indicate fraud if the number of times a coupon is redeemed by the consumer exceeds a predetermined amount. In response to information retrieved from redeemed coupons, a revised database may be generated and a new revised package of data for a revised selected group of consumers may be transmitted.

U. S. Patent No. 5,761,648 issued to Golden, et al. discloses an interactive marketing network for distributing electronic "certificates" (e.g., coupons). A data processing system and method permits consumers to access a database online at remote computer terminals and obtain the electronic certificates. The data processing

system identifies and marks each electronic certificate with a code distinguishing it from all other certificates and with another code identifying the user. In addition, the data processing system also permits the coupon issuers to go online to create the certificates and specify controls that restrict the total number of certificates issued as well as the number to be issued to each individual.

The network includes an issuing site having a first computer processor and a first computer storage system, and a service site having a second computer processor and a second computer storage system. The issuing site and the service site are in electrical communication, and the service site and each of the remote computer terminals are also in electrical communication. Instructions for issuing a predetermined number of electronic certificates are transmitted from the issuing site to the service site. The service site, upon receiving these instructions, releases the electronic certificates for collection. The electronic certificates can then be accessed by users of the remote computer terminals. Consumer data entered by the remote computer terminal users can be provided to the service site, and then selectively transmitted to the issuing site.

### **SUMMARY OF THE INVENTION**

The system of the present invention provides for the targeted, controlled and secure distribution and redemption of manufacturer and retailer coupons and for the analysis of the data accumulated while distributing and redeeming those coupons. Operation of the system is controlled from a data center and an associated server. Software installed on a consumer's personal computer receives coupon data from the server and presents coupon offers to the consumer.

The coupons distributed by the system are "intelligent", presenting themselves and potentially adapting certain features based on rules established by the coupon issuer and the consumer's individual profile, which is unobtrusively accumulated and stored on the consumer's personal computer. A coupon issuer may authorize a number of alternate coupons with the particular coupon that is presented to a consumer being determined by that consumer's profile.

From among the coupons presented, the consumer selects those which are to be collected and, once collected, which to print for redemption. The number of times a coupon may be presented to the consumer is based on the issuer's rules, but a particular coupon may only be printed once.

When a coupon is printed, a product barcode and a "digital stamp" are included which together identify the product, the specific coupon, the consumer, and other pertinent information. Consumers submit coupons to retailers and receive the corresponding discounts as with conventional coupons. The retailers then deliver the coupons to, and are reimbursed by, an authorized coupon clearing house, using substantially the same procedures as any ordinary coupon. One significant difference from conventional clearing house procedures is an additional scanning step to scan the "digital stamp".

Coupon issuers may be provided with detailed reports about which of their coupons are presented, collected, printed, and redeemed, along with corresponding aggregate consumer profiles.



**BRIEF DESCRIPTION OF THE DRAWINGS**

**Figure 1** is a functional block diagram of a coupon distribution system in accordance with the present invention.

**Figure 2** illustrates the coupon display “ticker” window on the present invention.

**Figure 3** illustrates the “print preview” window of the present invention.

**Figure 4** illustrates a printed coupon generated by the present invention.

## **DETAILED DESCRIPTION OF THE INVENTION**

In the following description, for purposes of explanation and not limitation, specific details are set forth in order to provide a thorough understanding of the present invention. However, it will be apparent to one skilled in the art that the present invention may be practiced in other embodiments that depart from these specific details. In other instances, detailed descriptions of well-known methods and devices are omitted so as to not obscure the description of the present invention with unnecessary detail.

### **SYSTEM OVERVIEW**

**Figure 1** is a block diagram of a coupon distribution system **10** in accordance with the present invention. An order for distribution of coupons is initially placed by a coupon issuer **12**. Typically, this is a manufacturer of consumer products. The order will specify the product or services, the type of coupon (cents-off purchase, 2-for-1, etc.), alternative coupon offers, if desired, and targeting parameters (discussed below). The order, which may be received by means of a written order form, by telephone, by electronic transmission or other means, is transmitted to data center **14**. The data center, together with an associated central server **15**, is the hub of all activities related to the coupon distribution system. Server **15** may be one of a distributed system of servers.

A consumer's computer **16** is typically a home personal computer or other device capable of connecting to the World Wide Web. The consumer's computer has a printer **18** associated therewith. During normal "on-line" operation of system **10**, a consumer (sometimes referred to as a "user") utilizes computer **16** to access one or more third party websites **20**, with or without the third party website's participation in a coupon program. The URL or other unique identification of the website is transmitted back to the consumer's computer **16**.

Whenever a consumer's computer **16** is connected to a website **20** that is "enabled" for operation with system **10**, a Client Application program **24** is active. Most of the functions of the Client Application are carried out in the background. Based on the coupon distribution criteria provided by coupon issuer **12**, the Client Application qualifies the consumer to receive certain coupon offers as a function of the profile data and website identification. The coupon information is processed by

the Client Application in order to display available coupons to the consumer in the manner described below.

The user selects desired coupons from those that are presented and prints the coupons on printer **18**. The coupons may then be taken to a retailer **26** for redemption when purchasing the particular product or service identified in the coupon. The printed coupons are processed in essentially the same manner as coupons distributed by conventional means, such as newspaper inserts, mailers, etc. However, unlike conventional coupons, each of the coupons generated by system **10** includes a “digital stamp” uniquely identifying the coupon and the consumer who printed it, thereby serving as a counter-measure against copying and other forms of fraud.

**Figure 4** illustrates a printed coupon **40** generated by system **10**. Coupon **40** looks much like a conventional printed coupon with artwork illustrating the discounted product, a conventional UPC barcode **42** and an EAN 128 barcode **44** (a one dimensional barcode used for In Store coupons). The most apparent difference between coupon **40** and a conventional printed coupon is the inclusion of a two-dimensional barcode “digital stamp” **46**. The consumer’s UserID (described below) is encoded in at least three locations on the coupon. It is printed in code within the text portion of the coupon to facilitate visual detection of fraud within a given bundle of coupons; it is used to create a unique 8-digit Household ID in the EAN 128 barcode; and it is encoded, together with the consumer’s Zip Code and other information, in the “digital stamp”.

Since the UserID is unique to each consumer and since each coupon offer has a unique bar code, every coupon is unique. No two coupons are the same unless a coupon has been photocopied. The system can therefore readily detect instances of fraudulent coupon redemption. The system tracks all consumer activity and can suspend service to consumers who abuse the system.

Coupon **40** may include additional anti-fraud counter-measures. Preferably, the bar code values are not derived by the Client Application, but are transmitted from central server **15**. Furthermore, the printed “face value” of the coupon is preferably encoded in an encrypted graphics format to prevent alteration prior to printing.

Once the coupons are redeemed by the retailer **26**, the retailer forwards the coupons to a redemption center **28**, which then reimburses the retailer for the face value of the coupons unless fraud (or an actionable level of fraud) is detected. The redemption center provides data center **14** with a complete accounting of all coupons that have been redeemed through various retailers **26**. The data center audits the coupon redemption information to detect instances of fraud and compile statistics concerning coupon redemption. The data center provides statistical feedback to coupon issuer **12** concerning overall redemption rates of the coupons distributed and the profiles of the individuals that collected the coupons for redemption. Such profiles can be constructed from (i) the nature of the coupons collected (e.g., if a coupon for dog food is collected, the system knows that the user has a dog), and (ii) from the user's responses to questions asked.

## **SYSTEM SOFTWARE**

The principal software components of system **10** are:

1. The Client Launcher, a browser component which is activated by the user's browser program (e.g., Netscape Navigator) when the user encounters a third-party website, whether or not the website is participating in a coupon program;
2. The Client Application, which is activated by the Client Launcher and which can communicate with a Coupon Server (described below) independent of the browser and the Client Launcher (the Client Application and Client Launcher are collectively referred to as the "Client Software"). The Client Application can consist of several applications run in sequence that have the ability to revise sections of the Client Application and the Client Launcher;
3. The Log Files, which describe the consumer's activities with the coupons collected by the Client Application, such as whether a coupon was collected automatically ("Autocollect Mode") or interactively ("Ticker Mode"), whether the coupon was subsequently printed or deleted, and so on;
4. The Play List, which contains rules that describe which coupons (and other assets) to get from an Asset Server (described below),

along with their display rules (such as their values and under what conditions they should or should not be displayed);

5. The Coupon Server, which is made up of the following components:

a) The Server Router, which is the first point of contact between the Client Application (and also the Client Launcher) and the Coupon Server;

b) The Application Server, which is contacted by the Client Launcher and which downloads updates to the Client Application (and Client Launcher) as needed;

c) The Client Authenticator, which looks up the UserID (a 64 bit value which uniquely identifies the consumer) and determines whether the Client Application is registered and whether fraudulent activity has been detected that is associated with the Client Application;

d) The Master Log Daemon, which receives Log Files from the Client Application and then forwards the Accumulated Log Files to the Data Center **14** through server **15**;

e) The Play List Server, which delivers a Play List to the Client Application, based on the results of the Client Authenticator and (optionally) the Zip Code of the client.; and

f) The Asset Server, which stores and delivers Merge Coupons and other assets to the Client Application;

6. The User Registrar, which registers new consumers and downloads the Client Launcher and Client Application (after user authentication);

7. The Site Tester, which tests the partner website links to the Coupon Server at least once a day; and

8. The Data Center, which collects data from the Log Files and the data captured at the coupon clearing house and provides the accounting, reporting, and data mining services.

Once the webmaster of a third-party website has registered to be a participating website, the website is configured with an HTML snippet that refers user to the coupon services. The Site Tester will regularly poll the participating websites to make sure the HTML links are functional.

The first time the user visits a participating third-party website, before they have registered and received the Client Software, she will be asked if she wishes to receive coupons. If so, she will be redirected to the User Registrar, which will request the consumer's Zip Code and will ask a series of optional questions before downloading the Client Software to the consumer's computer. The User Registrar will also notify the Data Center of the new consumer and of her UserID.

Upon completing the download of the Client Software (and in subsequent encounters with participating websites), the CouponServer uploads from the consumer's computer 16 the most recent Event Log and downloads a Play List describing the coupons appropriate for the user when the user visits the website. The Coupon Server also periodically updates the Data Center with accumulated Event Logs. The Client Software then downloads the coupons and other assets the user is qualified to receive. In addition, when the user is not connected to a website that has coupons associated with it, the Client Software has the ability to pre-load specified assets that are or may be used for future coupons, in a throttled mode, where the bandwidth required is kept to a minimum so that web access speed apparent to the user is not adversely impacted.

The user has the option of either automatically collecting offered coupons or specifically selecting individual coupons as they appear. At the user's discretion, the accumulated coupons can be examined, at which time some may be discarded, and some may be printed.

After printing the selected coupons, the user may use them to purchase the corresponding goods or services at any retailer that accepts coupons. The retailer will then redeem the accumulated coupons with the redemption center coupon clearinghouse. The redemption center will scan in the coupons and transmit the

associated data to the Data Center, where the data will be used for accounting and data mining purposes.

The following describes the process by which a new user registers and receives the Client Software:

- 1) The consumer's computer encounters a participating website while surfing the Internet. If the Client Launcher is not installed on the consumer's computer, an HTML snippet will detect this and present the consumer with a hyperlink to the User Registrar.
- 2) After the user agrees to receive coupons, the consumer's computer registers with the User Registrar and answers one required question (Zip Code) and a number of optional questions.
- 3) After completing registration, control is passed to the Launcher Server.
- 4) The Launcher Server requests a UserID. A 64 bit random number is returned to the Launcher Server. The UserID is selected from a list of 80 million random numbers generated via a physical sampling process rather than a mathematical algorithm. Thus, it is virtually impossible to guess a valid UserID and "hack" into the system.
- 5) The Launcher Server embeds the UserID into several locations on the consumer's computer **16**.
- 6) A copy of the Client Launcher is then downloaded to the consumer's computer and registered as a helper application with all resident web browsers on the consumer's computer **16**.
- 7) After completing the download and registration of the Client Launcher, the Launcher Server reports the UserID and the user's answers to the registration questions to the Data Center **14**.
- 8) After the Client Launcher has been downloaded, it is started automatically by the web browser on the consumer's computer, as described below.

The following describes the process initiated when a consumer's computer with a copy of the Client Launcher encounters a participating website:

- 1) An HTML snippet on the website causes the Client Launcher to start. This may be omitted by allowing the Client Launcher to continuously monitor the current URL being viewed in the Browser, and by contacting the Coupon Server to obtain a proper Play List for that user, URL, and Zip Code.
- 2) The Client Launcher contacts the Application Server with the UserID, the Client Launcher version, and the Client Application version to verify that the correct versions of the Client Application and Client Launcher are loaded on the consumer's computer.
- 3) If either the Client Launcher or the Client Application need to be updated, the Application Server downloads them to the consumer's computer.
- 4) If either the Client Launcher or the Client Application are updated, the Application Server notifies the Data Center of the UserID associated with the download to the consumer's computer.
- 5) The Client Launcher activates the Client Application, which is independent of the web browser on the consumer's computer.
- 6) The Client Application passes the UserID and the SiteID (which identifies the website referring the Client Application) to the Client Authenticator, which checks whether the UserID and SiteID are valid. The Client Application can choose from a list of Coupon Servers, in the case of failure of one or more Coupon Servers. This list of servers can be updated on a periodic basis.
- 7) If the UserID is not known to the Client Authenticator, but is a member of the previously generated set of possible UserID's, it is assumed to be a new user and the UserID is reported to the Data Center (for detection of possible fraud).



- 8) The Client Application then transmits its Log File, which has recorded all coupon activity, to the Master Log Daemon, which acknowledges receiving the Log File when reception is complete.
- 9) Periodically, the accumulated Log File, which holds all Log Files received in a period, is transmitted to the Data Center.
- 10) The Client Authenticator contacts the Play List Server with the UserID, Site Identification, Zip Code and any other appropriate information.
- 11) The Play List Server transmits the appropriate Play List to the Client Application, listing the URLs of the coupons and other assets and the rules by which they are to be used.
- 12) The Client Application determines which coupons and other assets it does not have cached on the client computer and needs and requests them from the secure Asset Server.
- 13) The requested coupons and other assets are then downloaded to the consumer's computer **16** from the Asset Server so they can be used by the Client Application.

#### **COUPON DISPLAY WINDOW**

**Figure 2** illustrates the coupon display "ticker" window **30** that displays coupons available for collection to a consumer on the consumer's computer **16**. The ticker window is preferably superimposed on a third-party web page that the user is viewing. The placement of the window can be controlled by the HTML snippet contained on the web page. In order to minimize use of display screen real estate, only a limited number of coupon offers are displayed at a time. The coupon offers are presented on "product boards" **32**. As illustrated in **Figure 2**, three product boards are displayed within the ticker window. The product boards "slide" across the screen at programmable intervals that can match the more common speed of Internet data transmission. This allows the coupon display to start displaying coupons within a few seconds of the browser viewing a website that has coupons associated with it. The product boards may be visually similar to conventional paper coupons. Depending upon the specifications provided by the coupon distributor, various actions may be initiated by the consumer "clicking" on the product board. Most typically, clicking on a product board **32** will cause the coupon to be

“collected.” This places the coupon information into a database in the consumer’s computer **16** so that the coupon can later be printed or other action can be taken. Collection of a coupon may be accompanied by graphics on the consumer’s computer display, such as an animation of scissors cutting out the product board. Other actions that may be taken when a consumer clicks on a product board could include presenting the consumer with a brief questionnaire to further qualify the consumer for a coupon offer, or for the purpose of constructing a consumer profile. For example, a question may be presented on or below a product board that will qualify (or disqualify) the consumer for a coupon offer on a related product. Another action that may be initiated by clicking on a product board is automatically linking to the product board sponsor’s website. By hyperlinking in this manner, product boards can facilitate on-line instant purchases and on-line coupon redemption. In addition cooking recipes, advertisements, fitness hints and a variety of other printed material can be transmitted for the consumer’s use.

In addition to the product boards, the ticker window provides the consumer with certain controls and displays. An information window **34** may inform the consumer about the number of coupons that have been collected and the cash savings that can be realized through use of the coupons. A “REDUCE” button **38** allows the consumer to shrink the size of a ticker window so that only a single product board is displayed at a time. When the ticker window is thus reduced in size, the “REDUCE” button is replaced with an “ENLARGE” button with which the consumer can restore the ticker window to its normal size. A “PRINT” button **40** activates the print module of the client application program and causes the ticker window to be replaced with a print preview window, which is described below.

The ticker can be “minimized”, in which case the value of the coupons currently contained in the ticker is displayed unobtrusively on the computer screen in a button that allows the consumer to return the ticker to the screen. Websites may opt to deliver coupons in such a mode, with audio and animation cues on the “minimized ticker” to prevent any intrusion on the display space of their web page.

At the right of the ticker window, a close button **42** is provided that allows the consumer to hide the ticker window. Also provided is a series of buttons **44-48** that allow the consumer to override the programmed sliding of the product boards. A “STOP” button **44** freezes the product board display and inhibits presentation of new product boards. When the ticker is thus frozen, the “STOP” button is replaced

with a “GO” button to resume programmed sequencing of the product boards. A forward button **46** and a reverse button **48** allow the consumer to sequence through the product boards under manual control. In addition, standard interface buttons **41-43** specific to the operating system allow the consumer to close the ticker, minimize it, or activate the “Reduce/Enlarge” functions in a manner consistent with the application interface of that computer or device.

### **PRINT PREVIEW WINDOW**

**Figure 3** illustrates the “print preview” window **50**, which displays the coupons that have been collected and with which the consumer makes a final selection of the coupons to be printed. The product boards **32** for the coupons that have been collected are displayed in the center of the window **50**. A “DELETE COUPON” button **54** allows the consumer to delete a collected coupon so that it will not be printed. The product board for a deleted coupon preferably remains within the print preview window, but is superimposed with the word “Deleted”. The consumer may cancel a previously deleted selection by clicking on the “Deleted” coupon. A “SAVE FOR LATER” button **56** allows collected coupons to be retained for printing at a later time. A “PRINT” button **52** causes all collected coupons to be printed, except for those that have been selected for deletion or designated to be saved for later.

A “PREVIOUS COUPONS” button **58** and a “NEXT COUPONS” button **60** allow the consumer to navigate among multiple pages of coupons if a quantity of coupons have been collected that exceeds the capacity of the print preview window **50**. A “RETURN TO TICKER” button **62** causes the Client Application program to leave the print preview window and return to the ticker window. Finally, a “HELP” button **64** causes help information to be displayed within the print preview window.

### **CONSUMER PROFILING**

The coupon distribution system of the present invention has the ability to target particular classes of consumers for coupon offers. During normal use of the system, the Client Application gathers information about the coupon collection habits of the consumer and gradually builds a profile of that consumer. This profile is provided to the data server and is then used to subsequently supply targeted offers to the consumer.

A hierarchical data structure is used to collect profile information. Top level or “type” qualifiers include categories such as food, recreation, lifestyle, etc. Additional levels of qualifiers are added within each type. For example, a data structure for profiling a consumer who has collected a coupon for two-liter bottles of Diet Pepsi® Cola could be as follows:

food.beverage.colas.diet.pepsicola.two-liter

The same coupon selection could also trigger the following data structure:

lifestyle.diet.beverage

Companies that place orders for coupon distribution can specify the consumer profiles to be targeted. The coupon distributor can specify particular profile qualifiers or Boolean expressions of qualifiers. For example, Coca-Cola could target cola drinkers with the simple qualifier: food.beverage.colas. If Coca-Cola wished to distribute coupons more specifically focused towards individuals who drink diet beverages the following qualifier expressions might be used: food.beverage.diet or lifestyle.diet.beverage.

It will be recognized that the above described invention may be embodied in other specific forms without departing from the spirit or essential characteristics of the disclosure. Thus, it is understood that the invention is not to be limited by the foregoing illustrative details, but rather is to be defined by the appended claims.

## CLAIMS

### WHAT IS CLAIMED IS:

1. A system for distributing coupons over a computer network having at least one third-party server coupled thereto, said system comprising:
  - at least one central server coupled to the computer network, said central server storing coupon data;
  - a client computer coupled to the computer network via a browser program; and
  - first software operating on the client computer for receiving the coupon data from the central server and displaying at least one coupon offer in a display window superimposed on a browser window displaying information from the third-party server.
2. The system of claim 1 further comprising a printer coupled to the client computer for printing a coupon corresponding to said at least one coupon offer.
3. The system of claim 1 wherein a plurality of coupon offers are displayed in the display window.
4. The system of claim 3 wherein subsets of the plurality of coupon offers are successively displayed in the display window for predetermined periods of time.
5. The system of claim 1 wherein the first software includes means for selecting a coupon offer in the display window for collection.
6. The system of claim 5 wherein the first software collects data identifying at least one category of the coupon offer selected for collection.
7. The system of claim 6 wherein the first software transmits said collected data identifying at least one category of the coupon offer selected for collection to the central server.
8. The system of claim 6 wherein the first software includes means for constructing a profile of a user of the client computer based upon the user's coupon selections.
9. The system of claim 8 wherein the means for constructing a profile of the user utilizes the user's responses to questions interactively presented to the user.

10. The system of claim 9 wherein the questions interactively presented to the user are determined by the user's coupon selections.

11. The system of claim 1 further comprising second software operating on the central server for assigning a user identification code to the client computer.

12. The system of claim 11 wherein the user identification code is selected from a list of random numbers.

13. The system of claim 12 wherein the random numbers are generated by sampling a physical process.

14. The system of claim 11 further comprising a printer coupled to the client computer for printing a coupon corresponding to said at least one coupon offer.

15. The system of claim 14 wherein the user identification code is printed on the coupon.

16. The system of claim 15 wherein the coupon includes a coupon identification code, which, in combination with the user identification code, uniquely identifies the coupon.

17. The system of claim 15 wherein a user's Zip Code is printed on the coupon.

18. The system of claim 15 wherein the user identification code is printed on the coupon in a two-dimensional bar code.

19. The system of claim 16 wherein the central server transmits to the client computer information that one or more identified coupons, printed by an identified user, were used in a fraudulent manner.

20. The system of claim 19 wherein the first software includes means for disqualifying the user of the client computer, from which coupons used in a fraudulent manner were printed, from receiving coupon offers with respect to selected coupons.

21. The system of claim 1 wherein the coupon offer displayed with respect to the third-party server is displayed with the participation of the third-party server.

22. The system of claim 1 wherein the first software include means for displaying a coupon offer that relates to the subject matter of the information from the third-party server without the participation of the third-party server.

23. In a system having a computer network, a central server coupled to the computer network, a client computer coupled to the computer network and at least one third-party server coupled to the computer network, a method of distributing coupons comprising the steps of:

installing first software in the client computer;

storing coupon data in the central server;

downloading the coupon data into the client computer;

accessing the third-party server from the client computer via a browser program;

and

displaying at least one coupon offer in a display window superimposed on a browser window displaying information from the third-party server.

24. The method of claim 23 wherein the first software is installed in the client computer by downloading from the central server.

25. The method of claim 23 further comprising the step of selecting a coupon offer in the display window for collection.

26. The method of claim 23 further comprising the step of printing a coupon corresponding to said at least one coupon offer.

27. The method of claim 25 further comprising the step of constructing a profile of a user of the client computer based upon the user's coupon selections.

28. The method of claim 27 wherein the step of constructing a profile of the user utilizes the user's responses to questions interactively presented to the user.

29. The method of claim 28 wherein the questions interactively presented to the user are determined by the user's coupon selection.

30. The method of claim 23 further comprising the step of assigning a user identification code to the client computer.

31. The method of claim 30 wherein the user identification code is selected from a list of random numbers.

32. The system of claim 31 wherein the random numbers are generated by sampling a physical process.

33. The method of claim 30 further comprising the step of printing a coupon corresponding to said at least one coupon offer.

34. The method of claim 33 wherein the user identification code is printed on the coupon.

35. The method of claim 34 wherein the coupon includes a coupon identification code, which, in combination with the user identification code, uniquely identifies the coupon.

36. The method of claim 34 wherein the user identification code is printed on the coupon in a two-dimensional bar code.

37. The method of claim 16 further comprising the step of the central server transmitting to the client computer information that one or more identified coupons, printed by an identified user, were used in a fraudulent manner.

38. The method of claim 37 further comprising the step of disqualifying the user of the client computer, from which coupons used in a fraudulent manner were printed, from receiving coupon offers with respect to selected coupons.

39. The method of claim 23 wherein the coupon offer displayed with respect to the third-party server is displayed with the participation of the third-party server.

40. The method of claim 23, further comprising the step of displaying a coupon offer that relates to the subject matter of the information from the third-party server without the participation of the third-party server.



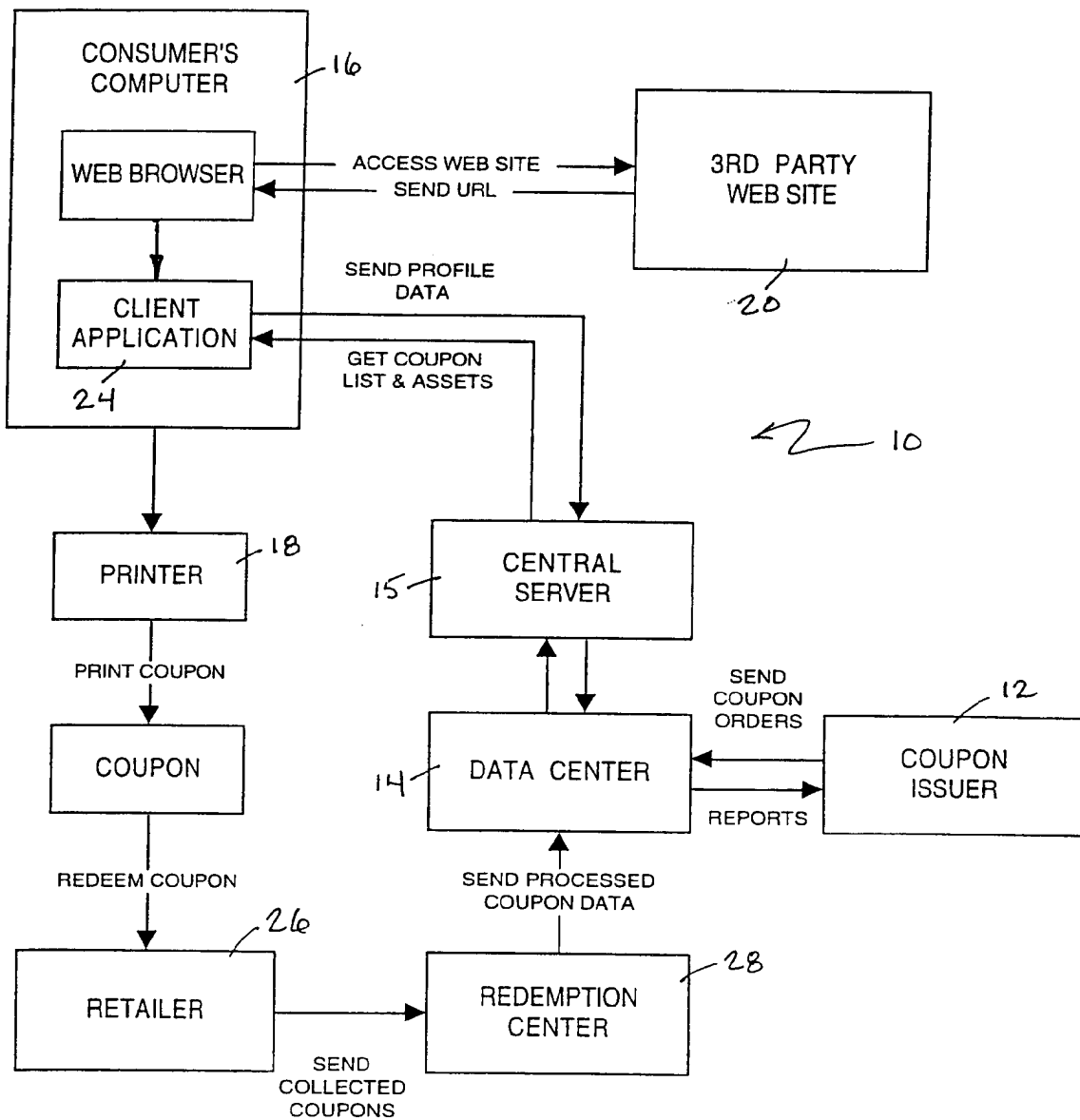


FIG. 1

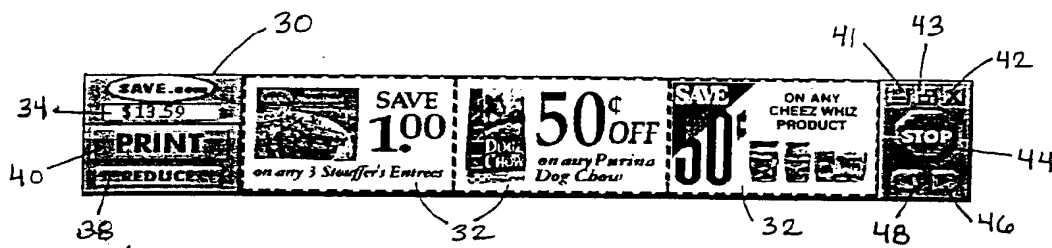


Fig. 2



Fig. 3

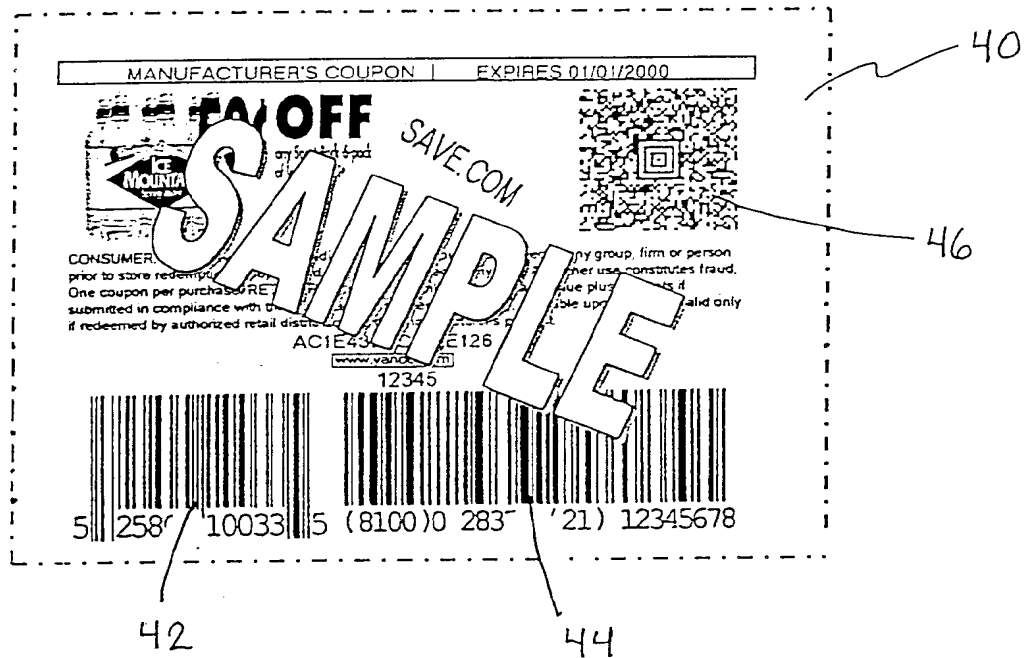


Fig. 4

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/40810

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) :G06F 17/60

US CL :705/10, 14, 27; 707/500, 501; 709/219

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/10, 14, 27; 707/500, 501; 709/219

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

STN, EAST

coupons,incentives,cents off, discounts,network,internet,www,web

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,943,654 A (GOODWIN, III et al) 24 August 1999, entire document.	1-40
A	US 5,933,811 A (ANGLES et al) 03 August 1999, entire document.	1-40
A	US 5,907,830 A (ENGEL et al) 25 May 1999, entire document.	1-40
A	US 5,937,392 A (ALBERTS) 10 August 1999, entire document.	1-40
A,P	US 5,948,061 A (MERRIMAN et al) 07 September 1999, entire document.	1-40

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;"

document member of the same patent family

Date of the actual completion of the international search

12 DECEMBER 2000

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